Top Load Washer—Technical Information

FAV6800A*, FAV7500A*

- Due to possibility of personal injury or property damage, always contact an authorized technician for servicing or repair of this unit.
- Refer to Service Manual 16022808 for detailed installation, operating, testing, troubleshooting, and disassembly instructions.

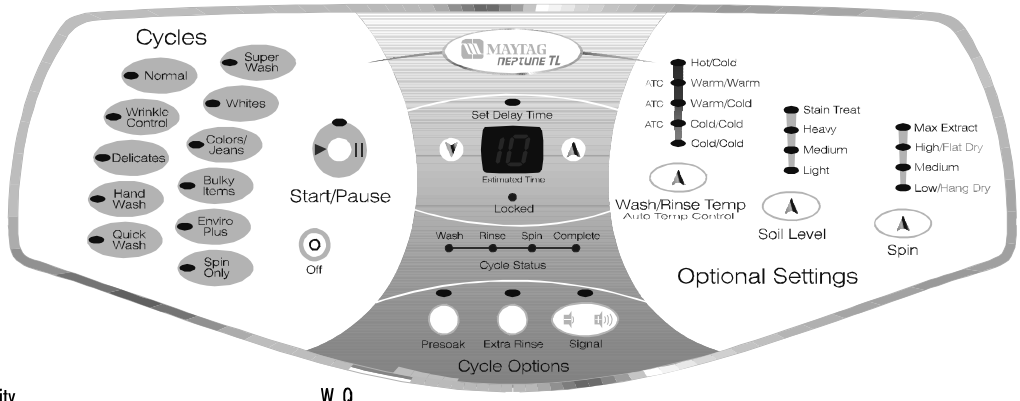
⚠ CAUTION

All safety information must be followed as provided in Service Manual 16022808.

⚠ WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power before servicing, unless testing requires power.

MAYTAG NEPTUNE® TL MODEL FAV6800A



Color Availability	W, Q
Controls	LED
Time Remaining Indicator	•
Start/Pause Keypad	•
Graphics	Neptune® TL
Washtub	301-Grade Stainless Steel
Capacity	3.5 cu. ft.
Tumblers	2
Speed Combinations	Infinite
TumbleClean™ Wash System w/Tumblers	•
Super Wash Fabric Cycle	•
Normal Wash Fabric Cycle	•
Whites Fabric Cycle	•
Wrinkle Control Fabric Cycle	•
Colors/Jeans Fabric Cycle	•
Delicates Fabric Cycle	•
Bulky Items Fabric Cycle	•
Handwash Fabric Cycle	•
Enviro Plus Fabric Cycle	•
Quick Wash Cycle	•
Spin Only Cycle	•
Delay Wash Option	1-9 Hours
Presoak Cycle Option	•
Stain Treat Option	•
Extra Rinse Option	•
Warm Rinse Option	•
MaxExtract™ Spin Option	•
Water Level Control	IntelliFill™
Water Temperature Combos	5
ATC (Energy Star)	Cold-Cold/Cold-85°/Warm-105°/Hot-Hot
Soil Level Control	Stain Treat/Heavy/Medium/Light

End-of-Cycle Chime	Variable
Showering Dispenser System	•
Automatic Detergent Dispenser	Timed
Automatic Bleach Dispenser	Timed
Automatic Fabric Softener Dispenser	Timed
Suspension	4 Struts
Top/Lid	Porcelain
Cabinet	QuadCoat™
Rear Leveling Legs	Stationary
Sound System	EQ Plus™
Spin Speeds	
MaxExtract™	850 (extended)
High/Flat Dry	850
Medium	650
Low/Hang Dry	550

Dimensions

Width: 27"
Depth: 28"
Height: $44\frac{3}{4}$"
Height w/lid open: $55\frac{3}{4}$"

Troubleshooting

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Will Not Start
- Plug cord into live electrical outlet.
- Check fuse or reset circuit breaker to outlet.
- Close lid and push the START/PAUSE button to start washer. The START/PAUSE LED should change from flashing to on continuously.
- Check to see if the washer is in a pause or soak period of the cycle. Wait briefly for cycle to advance.
- Check for restricted drain system.
- Check the lid, lid latch mechanism, and circuitry (see Will Not Lock).

Leaking
- Make sure supply hose connections are not leaking. Check for rubber gasket damage due to over-tightening.
- Make sure end of drain hose is correctly inserted and secured to drain facility.
- Check bottom of tub around the pulley. See special instructions page 11.
- Check internal hose connections (fill & drain systems, hoses & clamps).
- Check tub cover. Remove, reposition and reinstall the tub cover seal. Seal seam must be at the top of the tub cover.
- Make sure water dispensing system on inner lid is securely attached to lid.
- Make sure dispenser valve is securely attached to mounting bracket.
- Check standpipe for leak. Wrap a dry rag around the standpipe opening. If rag becomes wet leak is fault of home plumbing. Be sure the standpipe is capable of accepting the flow of water from the washer.
- Check the lid hinges if water is coming out behind the lid.
- Check for bowing of lid where water enters detergent dispenser.

Display Lights Up When Lid is Opened or Closed
- This is normal behavior.

No Tumble
- Start normal cycle with an empty machine and allow a fill to check tumble.
- Fabric cycles such as NORMAL, DELICATES, HAND WASH, & WRINKLE CONTROL only tumble periodically, every 60 seconds.
- Check for loose connections at machine control board, motor control board and motor.
- Perform ***Motor and Motor Control Test***.
- Washer does not tumble during most fills or during presoak.
- Washer with heat option does not tumble while heating.
- Check belt.

Will Not Spin
- During fill cycle – If machine tumbles and spins simultaneously replace clutch assembly.
- During spin cycle – If machine tumbles and spins simultaneously replace clutch assembly.
- Perform ***Motor and Motor Control Test***.
- Check belt.
- Check that the machine control correctly senses that all 3 water levels are empty. See ***Board Input Test***.
- Tub Displacement Sensor disconnected, or loose wire.

No Water Fill
- Go to ***No Fill Test***.
- Check to make sure water supply is turned on fully.
- Normal water level is 1 to 7 inches inside the spinner.
- Check electrical circuit and connections at the water valve, and pressure switch.
- Check for kinks in inlet hoses.
- Check for clogged inlet screens.
- Visually check hot and cold separately for fill.
- Check for low water pressure. May be dependent on pressure entering home. Variations may occur due to usage in the home at the time machine is used.
- Check for frozen pipes and hoses.

Tub Full of Suds
- Check for restricted drain system.
- Check for loose wire connections at control board and pump.
- Perform ***Motor and Motor Control Test***.
- Use high efficiency or low sudsing detergent specially formulated for front load washers.
- Run the clothes washer through another complete cycle using the coldest water and no detergent.
- Reduce detergent amount for that specific load size and soil level. Towel loads have a minimal amount of soil present and typically create more suds.
- Check to see if belt is off motor and pulley.

Wet Clothes
- Very small clothes loads can cause unbalanced loads - add additional towels.
- Excessive suds may have been present.
- Check Tub Displacement Sensor connection and main harness connector at machine control board.

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Troubleshooting

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- Check Tub Displacement Sensor for 0 to 3.0 Volts DC output voltage between ground and the board input. Check for 12 Volts DC input voltage between the ground and the board output. Only check for voltage at the Tub Displacement Sensor. Do not perform a continuity check. See **Tub Displacement Sensor Diagnostics** (pg 10)**.**
- Excessive motion was detected in spin (**dc** or **LL**) Run Quick Spin Test with an empty tub to check Tub Displacement Sensor and Machine Control Board.
- Check for restricted drain system.
- Perform ***Motor and Motor Control Test***.

Will Not Lock

- Lid not all the way closed or not properly aligned.
- Check electrical connections at lock assemblies, machine control board, and Motor Control Board.
- Magnet missing. (Located on the back side of dispenser assembly inner lid, front Left corner).
- Laundry load is too large to close lid.
- Check system relay for welded contacts. (Diagnostic code 34) Disconnect power. Continuity between p.6 pin 1 to p.8. pin 1 at the Machine Control Board connector.
- Go to Lid Lock Test.
- Make sure inner lid is properly assembled to lid.
- Make sure door lock bumpers are fully seated to top cover.

Will Not Unlock

- Press **Off**. The motor control is not responding if it takes 4 minutes to unlock. The motor control is either bad or disconnected.
- Unplug and reconnect power cord. Wait 20 seconds for machine to unlock.
- Check lid locked switch circuit. Circuit should be closed at machine control. ***(See board input/output chart)***
- Check for loose electrical connections at lid lock and at machine control board.
- Push lid closed to make sure nothing from inside is pressing against it which may keep it from unlocking.
- Perform ***Motor and Motor Control Test***. (see **Motor and Motor Control Test** section).
- If necessary, remove clothes by disconnecting power to washer, and open top cover with a putty knife.

Will Not Drain

- Check for restricted drain system.
- Check low, medium, and high water fill completion. Go to ***No Fill Test***
- Check for 120 VAC at the pump when a spin cycle is selected < 550 rpm.
- Go to ***Board Output Test*** and perform pump out test.
- In cold climates check for frozen Drain Hose.

Wrong Water Temperature

- Too Hot/Too Cold: This washer uses a reduced amount of water, while the control board meters the incoming flow to regulate the actual temperature of the water in the tub. This may appear to be significantly warmer/cooler than expected.
- Check that both faucets are on fully.
- Make sure the temperature selection is correct.
- This washer will compensate for reversed fill hoses. See **Hose Reversal Detection.**
- Make sure water heater is set to deliver a minimum of 120°F (49°C) hot water at the tap. Also check water heater capacity and recovery rate.
- If the water heater is located a long distance from washer, the water line may need to be purged prior to starting wash cycle.
- Disconnect inlet hoses and clean screens.
- The washer will need to go through a Hot / Cold cycle if the fill hoses were previously installed incorrectly and then corrected.
- Check Water Valve Thermistor. Resistance at room temperature is 61700 ohms. ***(See board input/output chart)***

Noise / Cabinet Hits

- Level the machine .
- Check sensor (refer to Tub Sensor Test).
- Check Strut and Strut Isolator for proper operation.
- Check for Diagnostic Code “10”.

Consumer Information Codes

If the consumer observes codes on display, see table below.

LED Display	Description
CL	Closed: Lid is closed.
dc	Distribute Clothes: The load is unbalanced, preventing high speed spin. Redistribute clothes.
FL	Failed to Lock: The machine has repeatedly tried to lock the lid. Make sure the lid is shut completely.
LO	Locked: Lid has failed to unlock - the machine has repeatedly tried to unlock the lid. Push lid closed to make sure nothing from the inside is pressing against the lid, preventing unlocking.

Troubleshooting

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LED Display	Description
Lr	Locked Rotor: The machine has repeatedly tried to turn the motor.
nd	No Drain: The machine has tried to drain.
OP	Lid is Open: Make sure it is fully closed before starting cycle.
od	Open the Lid: The lid has not been opened for the last three completed cycles.
nF	No fill: the machine has tried to fill. See No Water Fill**.**
PF	Power failure: Power to the machine has been lost during the last cycle. This may also occur on start up of a new machine due to factory testing. Check the lid. Press any key to return the display to normal activity.
Sd	Suds: Machine has detected high level of suds. The machine will alter its cycle for this situation. Use hE detergent or reduce the amount of detergent.
UL	Latch Unlocked: Close lid tightly to enable locking.
UC	Continuous Unbalanced Circuit. See Wet Clothes Troubleshooting. Improper signal from Tub Displacement Sensor. Check Pressure Switch before replacing Tub Displacement Sensor
UB	See Diagnostic Code 10
LL	Large Load Detected
CL	Clear To Reset Cycle Counts
oL	Machine Paused-Load Wedging

Service Mode

Service Mode enables service personnel to verify the operation of the washing machine and diagnose problems. Service Mode can be entered in the middle of any wash cycle without interrupting the cycle. While in Service Mode, the technician can cancel the current cycle, set a continuous running mode, start a variety of special service tests and view diagnostic displays.

Enter / Exit Service Mode

To enter Service Mode press the ***Enviro Plus*** and ***Spin Only*** keys for three seconds or until the control beeps. The motor speed will be displayed when started (motor not running display will be 00). The present state of the machine will not be changed. (i.e., the current cycle in progress will not be interrupted and only the display will change).

To exit: 1) Press ***Enviro Plus*** and ***Spin Only*** keys for 3 seconds again, or 2) press ***Off***, or 3) unplug the machine.

The following table summarizes special tests and features available in Service Mode, along with methods of activation and cancellation.

Accessing Service Tests and Diagnostic Features while in Service Mode.

Test or Display	Press LED to Start	Press LED to Cancel
Quick Spin Test	Press ***Hand Wash***	Press ***Off*** (exits Service Mode)
Hold Quick Spin Step (holds predefined RPM)	Press ***Hand Wash*** (during test)	Press ***Hand Wash*** (cancels hold & resumes next step)
Fast Time-Down / Advance to Next Step	Press ***Quick Wash*** during cycle	N/A
Quick Service Cycle	Press ***Wash/Rinse Temp*** ↑ (up) key	Press ***Off*** (also exits Service Mode)
Hold Quick Service Cycle Step	Press ***Signal*** ↑ (up) and ↓ (down) together	Press ***Signal*** ↑ (up) and ↓ (down) to resume
Membrane Test	Press ***Presoak*** (then individual buttons to test)	Press ***Off*** twice after starting test
Board Input Test	Press ***Super Wash***	Press ***Super Wash***

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Troubleshooting

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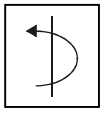
Test or Display	Press LED to Start	Press LED to Cancel
Board Output Test / System Check	Press ***Delicates***	Press ***Delicates***
Diagnostic Code Display (Initial)	Press ***Wrinkle Control*** – 1st code displays	Press ***Wrinkle Control*** again
All Diagnostic Codes	Press ***Set Delay*** ↑ or ↓	N/A
Cycle Count No. for Diagnostic Code	Press and hold ***Normal*** while diagnostic code is displayed	Release ***Normal*** (returns to diagnostic code display)
Clear All Diagnostic Codes	Press ***Quick Wash*** + ***Whites*** together while displaying diagnostic codes	
Display Software Version	Press ***Bulky Items*** 3 times 1st press- major soft. revision 2nd – minor soft revision	Press ***Bulky Items*** a 4th time
Cycle Count	Signal +: 10's and 1's digits Signal -: 100's and 1000's digits Colors/Jeans: 10-thousands & 100-thousand digits	



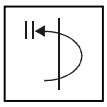
Quick Spin Test

While in Service Mode, press the ***Hand Wash*** key to start a ***Quick Spin*** Test.

Quick Spin test steps are as follows:

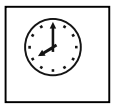
1) Lock the lid.
2) Spin to index speed 90 rpm and hold for 60 seconds. Pump drains machine.
3) Spin to index speed 150 rpm and hold for 6 seconds
4) Spin to index speed 350 rpm and hold for 6 seconds.
5) Spin to index speed 550 rpm and hold for 6 seconds.
6) Spin to index speed 700 rpm and hold for 6 seconds.
7) Spin to index speed 850 rpm and hold for 6 seconds. Pump out.
8) Coast down to 0 rpm chimes 3 times.

Speed Range	Displayed
a) 0-99 rpm	0-99 (actual)
b) 100-999 rpm	Speed X 10 ex: 85.= 850rpm



Hold Quick Spin Step

If the ***Hand Wash*** key is pressed again during the Quick Spin test, the machine will hold at the next highest index speed for up to 30 minutes. To cancel press the Hand Wash key again.



Fast Time Down Test

While any test or cycle is running in Service Mode, pressing the ***Quick Wash*** key will advance the program to the next cycle stage.

For example if in one of the following:

Stage of Wash Cycle	Advances To
Presoak	End of Presoak
Wash	Every 5 Minutes of Wash Time
Spin/Drain	End of the Spin Profile
Rinse	End of Rinse

Quick Service Cycle

While in Service Mode, pressing the ***Wash/Rinse Temp*** key will start a Quick Service Cycle. This will be a quick check of all systems. If display shows **od** then open and close lid. Pressing ***Quick Wash*** will advance to the next cycle.

Troubleshooting

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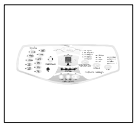
The following steps are performed: Display shows **"sc"**.

1. Lock lid and pump starts.
2. Cold bleach fill. Energize the cold and bleach water valves to low setting. Advance to next step if water is not connected to machine.
3. Tumble using 48 rpm tumble for 10 seconds.
4. Tumble with hot fill: Continue tumble while energizing hot water valve for 5 seconds.
5. Warm softener fill: Energize cold water and fabric softener valves until medium level is reached. Advance to next step if water is not connected to machine.
6. Drain and Spin to 850 rpm.
7. Display a **"PA"** (Passed) continuously for 5 seconds if no diagnostic codes were logged during the test.
8. Unlock the lid when the RPM is zero.

If a diagnostic code is logged during the test, the right-most dot will turn on and stay on until quick service cycle test has ended. Any diagnostic code logged during this test will result in failure of the test, but will not necessarily stop the test.

During the Quick Service Cycle, pressing the ***Quick Wash*** key will advance to the next step. Pressing the ***Hand Wash*** key will suspend the machine at the current step for up to 30 minutes or until ***Hand Wash*** is pressed again. All LEDs should flash on and off while the system is suspended or on hold.

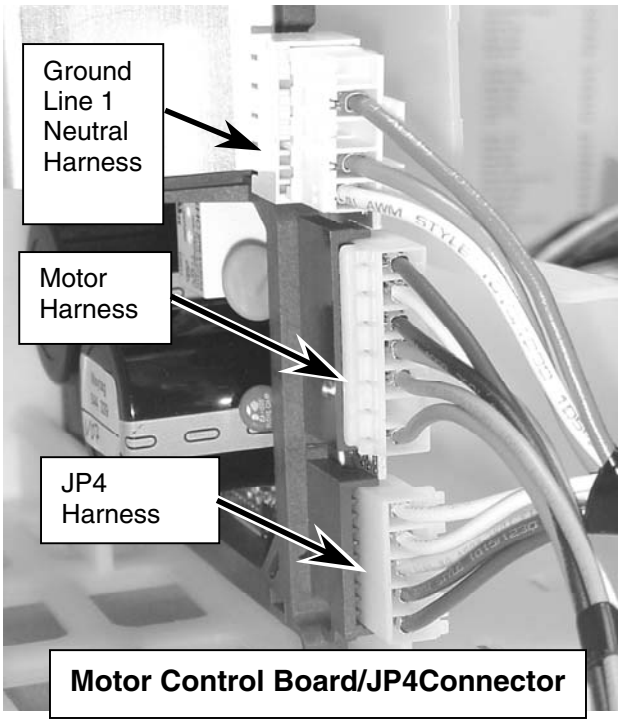


Membrane Pad Test

While in Service Mode, pressing the ***Presoak*** key will start a membrane switch check that verifies switch operation. All the LEDs (except ***Presoak***) can be toggled or slewed by pressing the key associated with the LED or set of LEDs. Each time either set delay arrow is pressed the digits toggle between a blank and 8. All keys (including the **OFF** button) must be pressed within 5 minutes for this test to pass. **"PA"** will be displayed for five (5) seconds once all keys have been pressed and the test is completed. Following 10 seconds of inactivity at any point, this test will exit without any display.

Motor Control Board Output Test

1. Disconnect power to the washer.
2. Remove the front panel and disconnect the JP4 Connector from the Motor Control Board.
3. Reconnect the washer power cord to supply voltage. Make sure the lid is closed.
4. Press ***Enviro Plus*** and ***Spin Only*** keys for 3 seconds to activate Service Mode.
5. Access ***Board Output Test*** by pressing the ***Delicates*** key. Display shows **"ot"**.
6. The lid must be locked to access ***Motor Control Board Output Test.*** To lock the lid press ***Colors/Jeans***. To verify the test, the quick wash LED will be on, indicating the system relay is activated. If off, press ***Quick Wash*** with the lid shut to activate.
7. Press ***Whites*** to start the motor control output test. This will send 120VAC to the motor control board. The motor control will execute a test routine and the motor should run, rotating the spinner at 50 rpm. There could be up to a 20 second delay before the spinner starts rotating.
8. If motor does not run: Check for 120 VAC at the motor control board harness between L1 and Neutral. ***See Illustration***



Motor Control Board/JP4Connector

If voltage is present, then problem exists with the motor and motor control system.

- Check for loose electrical connections at motor, and motor control board.
- Check phase windings of the motor. ***See Illustration.*** If motor windings are good, replace the motor control board.

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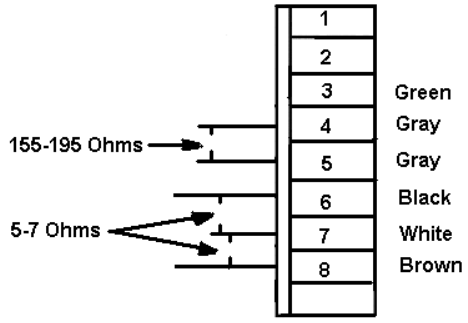
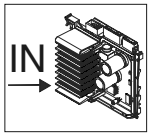
Diagram - Motor Harness



If voltage is not present;

- Check for loose electrical connections at Machine Control Board or broken wires in harness.

- Check lid actuator switch and related wiring. The lid must be closed and locked by pressing ***colors/jeans.*** The system relay is then activated and the quick wash LED is lit.



Board Functional Test Input Control Keys

While in Service Mode, pressing the ***Super Wash*** key will begin the **Board Input Test**. This test turns on a specified output after a key press. Pressing the ***Super Wash*** key again cancels the test. (Display shows IN).

While in Service Mode press the following key to check respective function.

Key	Function	*Display
Normal	Lid Position	OP or CL
Wrinkle Control	Lock State	UL or LO
Whites	**High Water Level	-0 or -1
Colors / Jeans	**Medium Water Level	-0 or -1
Bulky Items	**Low Water Level	_0 or _1
Enviro Plus	*** Water Temperature	8 88

*-0 Indicates Pressure Switch not satisfied for that water level.

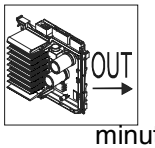
-1 Indicates Pressure Switch satisfied for that water level.

**The appropriate water level must be added before running test.

1. For "High Water Level" enter the "***Board Output Test***" and select ***Spin Only***. Exit "***Board Output Test***" after water fill and enter "***Board Functional Test***".
2. For "Medium Water Level" start a ***Normal*** cycle. After water fill stop cycle and enter "***Board Functional Test***".
3. For "Low Water Level" start a ***Enviro Plus*** cycle. After water fill stop cycle and enter "***Board Functional Test***".

***Note:** For the water temperature, the value could be three digits, in which case the first digit will be displayed separately from the other two (2) digits. The two displays will be shown alternately. Each temperature will be displayed by default in Fahrenheit units and can be changed to Celsius units by pressing either Set Delay Time Arrow key (up or down).

Board Output Test



While in Service Mode, pressing the ***Delicates*** key will begin the **Board Output Test**. This test turns on a specified output after a key press. (Pressing the ***Delicates*** key again cancels the test.) All outputs will be turned off after five (5) minutes.

While in Service Mode press the following key to check respective function.

Key	Function
Normal	Hot Water Valve
Wrinkle Control	Fabric Softener Valve
Whites	Motor Control
Colors / Jeans	Lid Lock*
Bulky Items	Bleach Valve
Spin Only	Cold Water Valve
Quick Wash*	Toggle System Relay
Presoak	Drain Pump
Extra Rinse	Lid Unlock*

***Note: Function may not occur for up to 20 seconds. While in the Board Output Test, the Quick Wash LED is always ON. When the Neptune TL is plugged in, the Machine Control Board will check the lid latch mechanism every 20 seconds. If found to be locked with no cycle running, the Control Board will send a signal to the switch to unlock the lid.**

Display Diagnostic Codes

The diagnostic code display can be toggled on and off from Service Mode by pressing the ***Wrinkle Control*** key. The display will show a **"d"**.

The diagnostic codes can be viewed by using the ***Set Delay Time*** arrow keys. The ***Set Delay Time*** down arrow key will cycle down the list one code at a time each time it is pushed. The Set Delay Time up arrow key will cycle up the list one code each time it is pushed. The first time the ***Set Delay Time*** down arrow key is pushed, the newest code will be

Troubleshooting

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displayed. A code generated during or after the current cycle will be displayed with the rightmost dot "**.**" turned "ON".

Access Other Features

While a diagnostic code is displayed, if the ***Normal Cycle*** key is pressed and held, the machine will display the number of cycles since the diagnostic code occurred. To clear the diagnostic list press the ***Quick Wash*** and ***Whites*** key while viewing the list. The cycle count for each diagnostic code will also be reset to 0, but not the machine cycle count.

Diagnostic Codes

Diag. Code	Description	Trigger	Action to be taken
1	No Drain	The water level fails to drop below the Low level before a spin	Displays **"nd"** Go to "**Will Not Drain**" Troubleshooting Section
2	The lid fails to unlock	Lid failed to unlock after multiple attempts	Displays **"LO"** Go to "**Will Not Unlock"** Troubleshooting Section
3	No Fill	Total fill 14 minutes exceeded.	Displays "**nF**" Go to "**No Water Fill**" Troubleshooting Section
4	The lid fails to lock	Lid failed to lock after 11 attempts	Displays "**FL**" Go to "**Will not unlock**" Troubleshooting Section
5	Continuous unbalanced circuit. Out of balance circuit	See section for unbal. loads. (During spin only)	Displays **"UC"** Go to "**Wet Clothes**" Troubleshooting Section
6	Locked Rotor forcing a shut down.	Locked rotor is still locked after 10 attempts.	Displays **"Lr"** Go to "**Motor Control Board Output Test**"
8	Water level sensor fault.	Input signal from water level Sensor is out of range, Washer will beep and pause the wash cycle.	Displays "LE" Go to "No water fill troubleshooting".
10	Unbalance or cabinet hit detected during final spin, which prevented the spinner from exceeding 500 rpm	Less than 500 rpm due to an unbalanced load.	LED – Will display "**ub**" Go to "**Wet Clothes**" Troubleshooting Section"
11	Will not remember machine settings	Difficulty in reading memory	Go to "**Clear diagnostic codes**" Disconnect and reconnect the washer power cord at power supply outlet. If condition still exists, replace machine control board.
15	Stuck Key	Detected a key pressed more than 75 seconds. The key is assumed to be stuck.	Go to "**Membrane Pad Check**" Check connection of keypad to control board. Replace console if necessary.
16	High speed not achieved due to torque.	Speed less than 400 rpm during a main wash cycle.	Go to "**Wet Clothes**" Troubleshooting Section"
17	The lid was not opened after completed wash cycles.	Did not sense lid open after the last three completed cycles.	LED – Will display "**od**" Customer may have tried to repeat wash cycle without opening the lid. Go to "**Lid Lock Test**"

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Diag. Code	Description	Trigger	Action to be taken
18	Detected lid lock switch open during cycle when not expected.	Open lid lock switch with motor running.	Check for loose wire connections. Clear the diagnostic code and recheck; if reoccurs, perform **Diagnostic Motor/Motor Control Board test** Check for faulty motor relay on the machine control board.
22	Detected lid switch open during cycle (when not paused).	Detected lid sensor switch open and the lid locked switch locked.	Go to "**Lid Lock Test**" Troubleshooting Section
23	Lid is locked at start of cycle	Lid lock is locked and a user tries to start a cycle.	Go to "**Will Not Unlock**" Troubleshooting Section
24	Motor high RPM detected two times	Motor tach signal is seen at maximum speed.	Replace motor control board.
25	Motor tach signal exists without motor running	Tach signal exists without torque input. (Abnormal condition only)	Replace motor control board.
28	Water valve thermistor failure	Abnormal high/low temp or ohm resistance seen	Go to "**Wrong Water Temperature**" Troubleshooting Section
34	Welded system relay	Change of state of the relay	Disconnect power. Continuity between p.6 pin 1 to p.8. pin 1 at the Machine Control Board connector.

Diag. Code	Description	Trigger	Action to be taken
40	Washer not operating due to tumble not functioning	Load bound up.	LED – Will display "**oL**" The washer is unable to complete its cycle. The paddles cannot move. To continue, separate and redistribute the load, then press "start/pause".

Exit Service Mode

To exit: 1) Press ***Enviro Plus*** and ***Spin Only*** keys for 3 seconds again, or 2) press ***Off***, or 3) unplug the machine. After five (5) minutes of inactivity (user key presses) in Service Mode, the machine will exit the Service Mode and resume normal operations. Pressing the ***Off*** key will completely exit Service Mode. If a cycle is running, cancel the cycle. Pressing the ***Start/Pause*** key while running a test will pause the individual test, while remaining in Service Mode. A power loss during Service Mode will cancel this mode.

Hose Reversal Detection and Correction

The washing machine has diagnostic features that determine if the hoses are reversed on the first complete cycle after power up. The control board monitors water temperatures during the wash cycle.

The control system is capable of detecting hot and cold water intake hose reversal and will change the fill temperature as necessary after the first cycle.
The control system stores and retains hot and cold water intake hose reversal information which is detected on the first three complete cycles after power up.

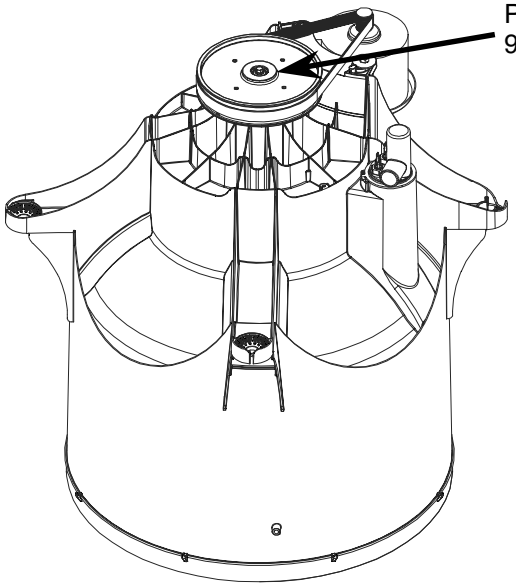
The system reverts to factory defaults for the cold and hot water valves and cancels hose reversal detection if a diagnostic code 28 has been logged in a cycle. See **"Wrong Water Temperature"** in the trouble shooting tips, at the beginning of this document for more information.

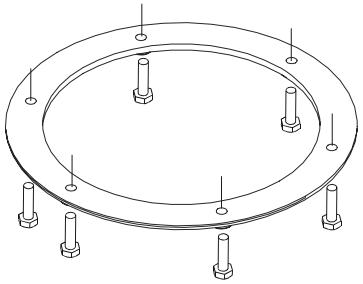
Troubleshooting

⚠ WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power before servicing, unless testing requires power.

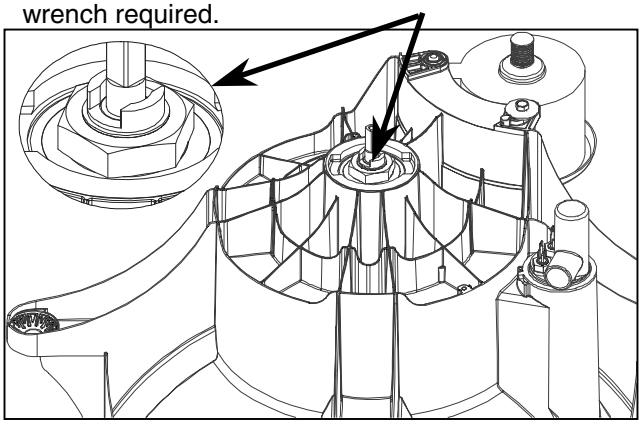
Torque Specifications





Clamp Ring 15-20 ft. lbs.

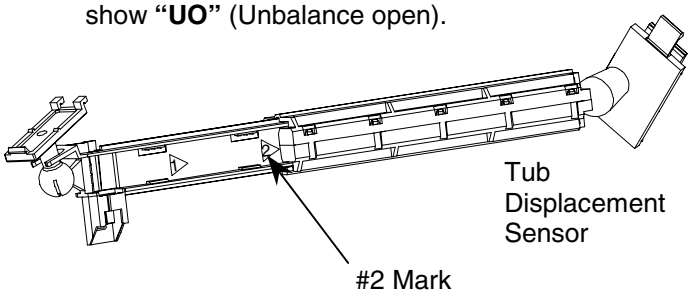
Spinner Support Shaft Nut 64-80 ft. lbs. Special wrench required.



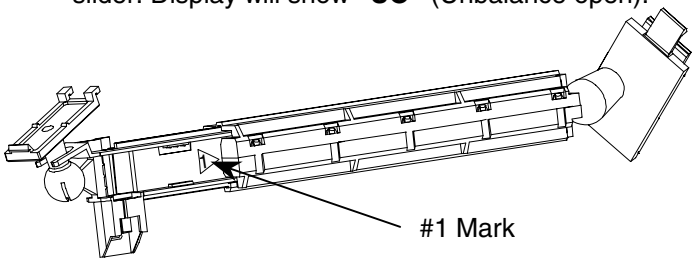
Tub Displacement Sensor Diagnostics

CAUTION: Do not perform continuity check directly on Displacement Sensor due to the potential for damaging the microprocessor chip in the sensor.

1. Enter the Service Mode by pressing and holding the ***Enviro Plus*** and ***Spin Only*** keys for three seconds.
2. Press the ***Super Wash*** key.
3. Press ***Delicates***.
4. Push tub to back right corner so sensor extends beyond the #2 mark molded on slider. Display will show **"UO"** (Unbalance open).



5. Press ***Hand Wash***.
6. Pull tub to front left corner and push down so sensor collapses to before the #1 mark molded on slider. Display will show **"UO"** (Unbalance open).



NOTE: Moving the sensor midway between mark #1 and mark #2 represents normal operation. Press ***Hand Wash*** or ***Delicates***. Display will show **"UC"** (Unbalance Closed).

Component Diagnostics

NOTE: Unplug lower harness connector under console and test from wire insertion side.

Component Check	Pin	Wire Color	Range
Drain Pump	2 and 11	WH and RD/BK	0 to 30 Ohms
Pressure Switch Low Level	4 and 13	BR and RD/WH	0 to 20 Ohms (no water in machine)
Pressure Switch Med Level	13 and 14	PU and RD/WH	0 to 20 Ohms (no water in machine)
Pressure Switch High Level	1 and 9	GY/BK and YL/BL	0 to 20 Ohms (no water in machine)

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Troubleshooting

⚠ WARNING

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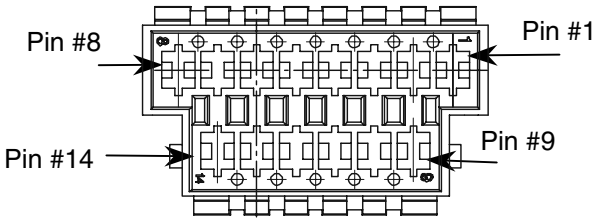
Insertion Side Lower Harness



Special Instructions Water Leak Around Pulley On Tub Bottom

Water leaking around the pulley on the bottom of the tub, check the following:

1. Remove the Transmission. The Transmission should be approx. 1/3 full of oil. The oil in the Transmission should be thick, similar to a high viscosity motor oil. Tip the Transmission slightly, the oil should move slowly. If the Transmission is nearly full or if the fluid is very thin and moves quickly, the Transmission has water in it. Replace the Transmission, O-Ring, Spinner Support, Tub Seal and Outer Tub.
2. If no water is inside the Transmission, check the integrity of the O-Ring. Look for signs of water or rust on and around the Input Shaft. If the O-Ring is bad or there are signs of water or rust around the input shaft, replace the spinner support, tub seal and the outer tub.
3. If there was no water in the Transmission or around the top of the Input Shaft, it is likely the water was leaking through the Tub Seal. Replace the Outer Tub and Tub Seal. Inspect the Spinner Support for damage around the Tub Seal area. Replace the Spinner Support if it is damaged.
4. The Clutch Assembly should be inspected for signs of water or oil contamination. Clean Clutch Assembly as needed. Replace Clutch Assembly when water or oil contaminates the roller clutches.

Note: Oil in a new Transmission is clear. During operation, the oil will turn a dark color caused by the special compounds in some of the bushings.

Titan LED Washer Control Board Inputs Table

Item	Description	Voltage	Input type	Input to Where	Comments
Water Valve Thermistor		0 - 3.3 VDC	Analog	Input to Micro-processor	
Power Cord	Line	120 VAC		Input to some relays	
	Neutral	120 VAC		Input to some relays	
	Ground	Chassis ground			
Lid Lock Switch	This switch senses if the lid is locked	0 - 12 VDC	Digital	Input to Micro-processor and safety circuitry	Closed when lid is locked
Lid Closed Switch	This switch senses if the lid is closed	0 - 12 VDC	Digital	Input to Micro-processor and system relay coil	Closed when lid is closed
User Interface	Membrane switch key pad	0 - 12 VDC	Digital	Input to Micro-processor	Open when key is not pressed
Tach from Variable Speed Motor Control	Tach signal	0 - 12 VDC	Digital	Input to Micro-processor and safety circuitry	
Pressure switch	Low water level	0 - 12 VDC	Digital	Input to Micro-processor	Closed when not satisfied
	Medium water level	0 - 12 VDC	Digital	Input to Micro-processor	Closed when not satisfied
	High water level	120 VAC		Input to Micro-processor and some relays	Closed when not satisfied

Component Testing Information

WARNING

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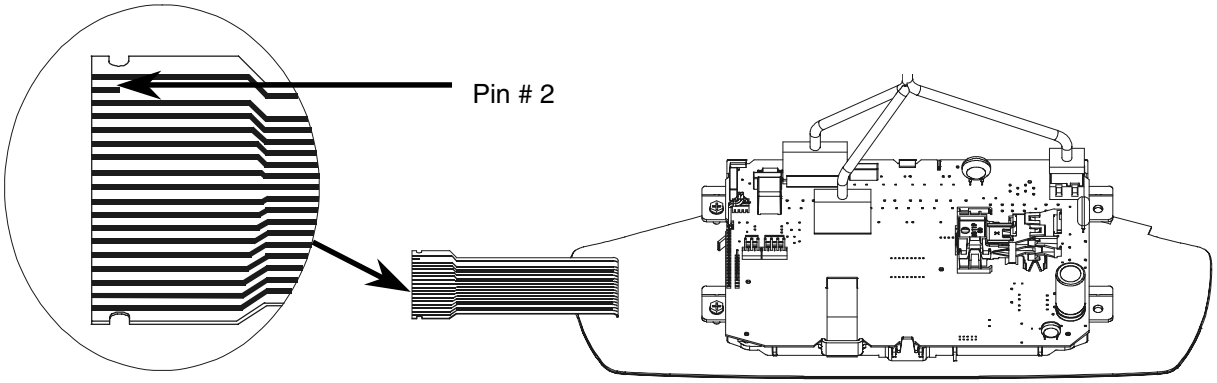
Membrane Pad Continuity Checks

Unplug ribbon connector from display board. Touch probe of meter to the appropriate pin numbers listed in the chart. Meter will show infinite unless the appropriate key is pressed.



Button	Pin Number	Button	Pin Number
Super Wash	18 & 3	Start/Pause	6 & 4
Normal	5 & 3	Off	6 & 13
Wrinkle Control	6 & 3	Presoak	18 & 7
Delicates	18 & 12	Extra Rinse	18 & 13
Hand Wash	6 & 14	Signal -	18 & 4
Quick Wash	5 & 14	Signal +	6 & 7
Whites	18 & 14	Wash/ Rinse Temp	5 & 12
Colors/Jeans	6 & 12	Soil Level	5 & 13
Bulky Items	18 & 11	Spin	5 & 4
Enviro Plus	6 &11	Delay Time Increase	5 & 7
Spin Only	5 & 11	Delay Time Decrease	6 & 8

Note: When the Neptune TL is plugged in, the Machine Control Board will check the lid latch mechanism every 20 seconds. If found to be locked with no cycle running, the Control Board will send a signal to the switch to unlock the lid.

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Wiring Schematic

WARNING

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